



Public Health Information Network
HL7 Version 2.5

**VARICELLA
CASE NOTIFICATION
IMPLEMENTATION GUIDE**

Version 1.0

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Centers for Disease Control and Prevention



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VARICELLA CASE NOTIFICATION AS HL7 2.5 ORU IMPLEMENTATION GUIDE

1 INTRODUCTION

This Implementation Guide documents the use of the *Health Level 7 (HL7) Version 2.5 Observation Report Unsolicited* to support messaging of the Varicella Case Notification from public health entities to the CDC.

The specifications in this *Implementation Guide* are not intended as a tutorial for either HL7 or interfacing in general. The reader is expected to have a basic understanding of interface concepts and HL7. This message is based on and conforms to the *HL7 Standard, Version 2.5*.

1.1 PHIN MESSAGING

The Public Health Information Network (PHIN) initiative is a comprehensive architecture of data and information systems standards intended to advance the development of efficient, integrated, and interoperable public health information systems. PHIN development, along with the work of related initiatives such as e-Health Initiative (eHI), is based on the fundamental understanding that exchange of health-related information between healthcare providers, public health agencies, and the general public is an essential aspect of public health surveillance and response. Therefore, messaging—the electronic exchange of data between computerized information systems—is a key element of the PHIN architecture.

The development and effective management of data interchange (messaging) requires the use of generally accepted standards. These standards become more widely used and more effective when they are developed by a widely based consensus process rather than by any single organization. Furthermore, use of industry standards is a basic tenet of the e-Government initiative that provides direction to CDC as to other government agents. Since it is generally accepted that Health Level Seven (HL7) standards are the prevailing industry standards for communicating clinical and laboratory data in the form of electronic messages, CDC has chosen to work with HL7 as the primary source for interface standards.

The breadth and general applicability of the HL7 standards are advantageous to a wide variety of users, but they also present challenges for specific implementations in public health and other contexts. Public health messaging partners need to define, with particularity, the data to be passed, and the circumstances under which it is passed. In other words, it is necessary to develop message implementation guides based around specific scenarios or use cases. These guides introduce the level of specificity required to define verifiably compliant messages.

1.2 WHAT IS AN IMPLEMENTATION GUIDE?

A public health messaging implementation guide is a document that describes:

- The circumstances under which messaging takes place
- The data that is passed in a particular message
- Additional specifications and guidance to assist in message implementation.

A wide range of use cases and partners is involved in public health messaging. Despite a multiplicity of specific message contexts, many of the same partners are involved as message receivers and message senders. As a result, consistency in both the form and content of message implementation guides can help establish and maintain a common, standards-based approach to electronic messaging.

1.3 AUDIENCE

This guide is designed for use by analysts who need a better understanding of the contents of PHIN messages, and by implementers working to develop PHIN-compliant applications. Understanding and using the relevant implementation guide or guides is a key requirement for establishing PHIN compliance.

1.4 CONTACTS

PHIN Help Desk
National Center for Public Health Informatics
Phone: 1-800-532-9929 or 770-216-1299
Email: PHINTech@cdc.gov

2 CASE NOTIFICATION AS ORU MESSAGE METHODOLOGY

2.1 STANDARD MESSAGE FORMAT

The *ORU^R01—Unsolicited Observation Message* is the HL7 standard message used to pass the Notifications in HL7 2.5 methodology. The standard message allows many segments, but the constrained ORU for Notifications makes use of only four segments: Message Header (MSH), Patient Identification (PID), Observation Request (OBR), and Observation Result (OBX).

The MSH segment is typical for PHIN messaging, and is required for every message. The Notification ID is used for the Message Control ID in MSH-10, and the version of the specification to which the message complies is mapped to MSH-21 Message Profile Identifier.

The PID segment is used for passing the patient's internal/local ID from the sending application, address fields, sex, race, ethnicity, and possibly nationality, citizenship, death indicator, and deceased date, if they are collected for that particular condition. Other demographic-type elements that do not reside on the PID segment are treated as investigation observations. The PID segment is not used when the Notification is for environmental reporting, and the standard allows the PID to be optional for the ORU.

The OBR segment is used as a "report header" to identify the Notification Type and to pass the investigation local ID as a "filler number." Some required date/time fields on the OBR segment will be picked up from the notification *create* and *send* date/times. The Notification Type is passed in the OBR-4 Universal Service ID field. The event or condition code is passed in the OBR-31 Reason for Study. The appropriate event codes for each condition are provided in the Guide.

The OBX segment is used to pass each data element as an Observation. There can be many of these OBX segments per OBR. All OBX segments are logically tied to the OBR that immediately precedes them.

2.2 THREE NOTIFICATION TYPES

The main Notification Type is NOTF for a Case Notification, as most of these are. Notification Type may be ENVNTF, if it is an environmental notification (Lead is the prototype), or LABNTF, if it is a notification about laboratory reporting (Lead Laboratory Report is also the prototype). These are the only three notification types in use for the investigation data passed in the first instance of the Order_Observation segment group.

2.3 TWO SUPPLEMENTAL NOTIFICATION TYPES

The message allows more than one Order_Observation segment group, and these subsequent/additional observation groups may carry either an associated laboratory report or associated vaccine report, in which case, the OBR-4 value in the additional OBR segments is either LABRPT or VACRPT. The

additional OBR segment carries all of the observations for the single, associated report, and there can be any number of additional OBR segments. The only time additional OBRs will be received (as known to date) is for the Case Notification (NOTF). There seems to be no use case for sending associated laboratory reports or vaccine reports for environmental or laboratory investigations. (The LABNTF is a notification about a lab report in itself, and includes other information to meet national Lead reporting requirements. It may or may not have resulted in a “case”).

2.4 DATA ELEMENTS/QUESTIONS AS OBSERVATIONS

Once the type of notification and the event or condition are defined, all other pertinent data is passed as Observations under the OBR segment. Any data element that does not reside in the PID segment and all of the investigation data elements are specified and passed as OBX segments. The Observation Identifier draws from the PHIN standard Value Set, PHVS_PHINQuestions_CDC, from which all of the data elements are drawn, so it is possible to hard code the object identifier (OID) for the values in OBX-3. An OID is required to meet PHIN Interoperability Requirements, as OBX-3 is a coded element (CE) data type. This section presents the real difference between the various Messaging Guides, since the preceding parts of the message are all handled in a standard manner.

The order in which the Observations are passed makes no difference—that is, the report should not be hard-coded so that every question is passed whether it was answered on the application side or not. Only fields that contain data should be passed in the message. Although the “required” fields in the application will contain data for messaging, the “required” status is not enforced by the message.

2.5 DATA TYPES IN USE

Data types in use for responses are defined in the condition-specific “Data Elements as Observations” tables. A data type is declared for each observation in OBX-2 Value Type, a field that indicates the expected format of the response in OBX-5. The value types in use have been constrained to String, Coded, Text, Structured Numeric, and Timestamp, to control the format of the data to allow parsing for database purposes.

2.6 OBSERVATION RESPONSES

The response in OBX-5, if the value type in OBX-2 is CE, draws from a PHIN standard value set. The plan is to provide with each specification a Workbook that allows mapping of local values to the Standard values. The Workbook contains a macro that automates the building of the Rhapsody translation table used for coding logic for the interface. Navigating through the translation table supplies the appropriate coding system OID to meet PHIN interoperability requirements.

2.7 UPDATE AND DELETION PROCESSING

The Result/Report Status field in OBR-25 of the Observation Request segment is used for processing. This field makes use of the HL7 typical values and processing implications for reporting. The first time a notification is sent, the value will be 'F' for *Final*. If an update is sent, the entire, new report is sent and the OBR-25 value will be 'C' for *Corrected*. If the application has functionality that causes a deletion request to occur (as some of them have), a value of 'X' will be sent in the OBR-25 Status field. This field is an ID data type, so the HL7 code is the only component that must be passed (no description or OID). The individual Observation statuses in OBX-11 are not used for processing; the field is mandatory for the message, but the value 'F' is used to meet that requirement. The entire report will be processed according to the contents of OBR-25.

3 DATA ELEMENT CROSS REFERENCE

3.1 NOTIFICATION CROSS-REFERENCE ABBREVIATIONS

The column headers and their definitions (as used in the cross-reference tables for the Message Header, Demographics, and basic elements that apply to all Notifications) are as follows:

TABLE 3-1 NOTIFICATION CROSS REFERENCE ABBREVIATIONS	
Abbreviation	Definition
NPP Name	Name assigned to the data element in the application.
UID	PHIN element UID drawn from the value set PHVS_PHINQuestions_CDC.
Label	Short name for the data element.
Description	Description of the data element.
HL7 Message Context	Specific HL7 segment and field mapping for the element.
Data Type	Data type used by PHIN for HL7 element.
Req./Opt.	Indicator whether the field is required or optional in the message. Note that the required status for the application is enforced by the application and not the message. <ul style="list-style-type: none"> • R – Required. Must always be populated. • O – Optional. May optionally be populated.
Rpts	Indicator whether the response to the data element may repeat. “Yes” in the field indicates that it may; otherwise, the field is not populated. Repeats require special processing.
Value Set Name	Name of the pre-coordinated table from which the response is drawn. The value sets and coding systems are accessible via the Public Health Information Network Vocabulary Access and Distribution Services at http://www.cdc.gov/PhinVSBrowser/StrutsController.do .
Comments	Related implementation comments.

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3.2 VARICELLA CASE REPORT NOTIFICATION DATA ELEMENTS

These are the data elements in use for Varicella Case reporting.

TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE								
UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
NTF139	Notification Local ID	The system-assigned local ID of the notification record. This is a required field.	MSH-10 Message Control ID	ST	R			By definition, Message Control ID must be unique.
DEM197	Local ID	Sending system-generated ID of the patient/entity. This is a required field.	PID-3.1 Patient Identifier List – ID Number PID-3.4 Assigning Authority format <&OID&ISO>	CX	R			
DEM115	Date of Birth	Reported date of birth of the subject.	PID-7 Date of Birth	TS	O			
DEM113	Sex	Subject's current administrative gender.	PID-8 Sex	IS	O		PHVS_Sex_MFU	With this data type, no OID or description is passed.
DEM152	Race Category	Reported race category; supports collection of multiple race categories.	PID-10 Race	CE	O	Y	PHVS_RaceCategory_CDC	
DEM162	State	Patient's address state.	PID-11.4 Patient Address - State	ST	O		PHVS_State_FIPS_5-2	
DEM163	Residence Zip Code	Patient's address Zip code.	PID-11.5 Patient Address - Postal Code	ST	O			
DEM165	Residence County Code	County of residence of the subject.	PID-11.9 Patient Address - County	IS	O		PHVS_County_FIPS_6-4	Component supports passing of county code only.
DEM155	Ethnic Group Code	Subject Hispanic indicator.	PID-22 Ethnic Group	CE	O		PHVS_EthnicityGroup_CDC	

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
DEM128	Death Date/Time	Date and time the subject's death occurred.	PID-29 Death Date/Time	TS	O			
DEM127	Deceased Indicator	Indicator of whether or not a patient is alive or dead.	PID-30 Death Indicator	ID	O		PHVS_YesNo_HL7_2x	Element is attached to the patient record. The observation INV145 is used if the program has a specific question: "Did the patient die of this disease?"
INV168	Investigation Local ID	System-assigned local ID of the investigation with which the case subject/entity is associated. This is a required field.	OBR-3.1 Filler Order Number OBR-3.3 Assigning authority OID OBR-3.4 'ISO'	EI	R			
NOT101	Notification Type	Type of notification. This is a required field.	OBR-4 (first OBR occurrence) = NOTF OBR-4 in subsequent OBR segments = LABRPT to indicate it carries information on an associated laboratory report	CE	R		PHVS_NotificationType_NND	First OBR Literal value: [NOTF^Case Notification^2.16.840.1.114222.4.5.256]. Subsequent OBR(s) to carry one or more Associated Laboratory Report: [LABRPT^Associated Laboratory Report^2.16.840.1.114222.4.5.256].
NOT103	Date Notification First Submitted	Date the notification was first sent to an entity outside the case jurisdiction of occurrence. This value does not change after the original notification. This is a required field.	OBR-7 ObservationDate/Time	TS	R			Element required to be populated for the OBR segment in the ORU message.

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
NOT106	Date of Notification	Date/time the notification was sent. It will be the same value as NOT103 for the original notification. For updates, this is the <i>update/send</i> date/time. This is a required field.	OBR-22 Results/report Date/time	TS	R			Element required to be populated for the OBR segment in the ORU message.
INV169	Condition Code	Condition or event that constitutes the reason the notification is being sent. This is a required field.	OBR-31 Reason for Study	CE	R		PHVS_NationallyNotifiableDis easeCondition_CDC	10030 Varicella Infection.
INV107	Jurisdiction	Jurisdiction Code. This is a required field.	Observation/OBX segment	IS	R		Case Jurisdiction Code	Local coding scheme not created in PHIN-VADS; collected as text, therefore passed as String data.
INV108	Program Area Code	Program area code.	Observation/OBX segment	IS	O		Local coding scheme not created in PHIN-VADS.	Local coding scheme not created in PHIN-VADS.
INV109	Case Investigation Status Code	Case investigation status code (open or closed).	Observation/OBX segment	CE	O		PHVS_PHC_IN_STS	
NOT113	Reporting County	Report county code. This is a required field.	Observation/OBX segment	CE	R		PHVS_County_FIPS_55-3	
NOT109	Reporting State	Reporting state. This is a required field.	Observation/OBX segment	CE	R		PHVS_State_FIPS_5-2	
NOT110	Record Type	Type of record reported (<i>e.g.</i> , individual or summary notification).	Observation/OBX segment	IS	O		PHVS_PublicHealthCaseReco rdType_NND	Data type is IS, so description and OID are not passed.
INV173	State Case ID	State case ID. This is a required field.	Observation/OBX segment	ST	R			Be prepared to infer the state as the assigning authority of this ID.

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
INV147	Investigation Start Date	Investigation start date. This is a required field.	Observation/OBX segment	TS	R			
VAR100	Number of lesions in total	Number of lesions in total. This is a required field.	Observation/OBX segment	CE	R		PHVS_NumberOfLesions_VZ	
VAR101	Did the patient receive Varicella-containing vaccine	Did the patient receive Varicella-containing vaccine? This is a required field.	Observation/OBX segment	CE	R		PHVS_YNU	
INV2001	Age at investigation	Age at investigation – this is a derived field that is required for the message. This is a required field.	Observation/OBX segment	SN	R			
INV2002	Age units	Age at investigation units.	(Same Observation/OBX segment as age)	CE	O		PHVS_AgeUnit_UCUM	
INV163	Case Class Status Code	Case class status code. This is a required field.	Observation/OBX segment	CE	R		PHVS_CaseClassStatus_NN D	
INV165	MMWR Week	MMWR Week. This is a required field.	Observation/OBX segment	SN	R			
INV166	MMWR Year	MMWR Year. This is a required field.	Observation/OBX segment	TS	R			Year should simply appear as the first four digits of the Timestamp.
INV114	Reporting Source Name	Reporting source name.	Observation/OBX segment	ST	O			
INV115a	Reporting Source Address Line 1	Reporting source street address Line 1.	Observation/OBX segment	ST	O			

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
INV115b	Reporting Source Address Line 2	Reporting source street address Line 2.	Observation/OBX segment	ST	0			
INV116	Reporting Source Address City	Reporting source address city.	Observation/OBX segment	CE	0		PHVS_City_USGS_GNIS	
INV119	Reporting Source Address County	Reporting source address county.	Observation/OBX segment	CE	0		PHVS_County_FIPS_6-4	
INV117	Reporting Source Address State	Reporting source address state.	Observation/OBX segment	CE	0		PHVS_State_FIPS_5-2	
INV118	Reporting Source Address Zip Code	Reporting source address Zip Code.	Observation/OBX segment	ST	0			
INV122	Reporting Source Telephone Number	Reporting source telephone number.	Observation/OBX segment	ST	0			
INV143	Illness Onset Age	Age at onset of illness.	Observation/OBX segment	SN	0			
INV144	Illness Onset Age Units	Age units at onset of illness.	(Units code is passed in the same Observation/OBX segment as INV143, but as OBX-6 value)	CE	0		PHVS_AgeUnit_UCUM	Note: the units appear in OBX-6 of the same observation/OBX segment as the numeric observation preceding it, but units are not specifically tagged.
INV111	Date of Report	Date of report.	Observation/OBX segment	TS	0			

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
INV120	Earliest Date Reported to County	Earliest date reported to county.	Observation/OBX segment	TS	O			
INV121	Earliest Date Reported to State	Earliest date reported to state.	Observation/OBX segment	TS	O			
INV136	Diagnosis Date	Date of diagnosis.	Observation/OBX segment	TS	O			
INV137	Date of Illness Onset	Date of onset of illness.	Observation/OBX segment	TS	O			
VAR102	Rash Onset Date	Date of rash onset.	Observation/OBX segment	TS	O			
VAR103	Rash Location	Location of rash.	Observation/OBX segment	CE	O		PHVS_RashLocation_VZ	Differing code system OIDs for this complex value set.
VAR104	Dermatome	Dermatome.	Observation/OBX segment	ST	O			
VAR105	Where Rash First Noted	Where rash was first noted.	Observation/OBX segment	CE	O		PHVS_RashFirstNoted_VZ	Differing code system OIDs for this complex value set.
VAR106	Other Generalized rash location	Other generalized location of rash.	Observation/OBX segment	ST	O			
VAR107	Macules Present	Macules present?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR108	Number of Macules	Number of macules.	Observation/OBX segment	SN	O			
VAR109	Papules Present	Papules present?	Observation/OBX segment	CE	O		PHVS_YNU	

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
VAR110	Number of Papules	Number of papules.	Observation/OBX segment	SN	O			
VAR111	Vesicles Present	Vesicles present?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR112	Number of Vesicles	Number of vesicles.	Observation/OBX segment	SN	O			
VAR113	Mostly macular/papular	Mostly macular/papular?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR114	Mostly vesicular	Mostly vesicular?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR115	Hemorrhagic	Hemorrhagic?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR116	Itchy	Itchy?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR117	Scabs	Scabs?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR118	Crops/Waves	Crops/waves?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR119	Did rash crust	Did rash crust?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR120	Number of Days until lesions crusted over	Number of days until lesions crusted over.	Observation/OBX segment	SN	O			
VAR121	Number of Days rash lasted	Number of days rash lasted.	Observation/OBX segment	SN	O			
VAR122	Fever	Fever?	Observation/OBX segment	CE	O		PHVS_YNU	

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
VAR123	Fever Onset Date	Fever onset date.	Observation/OBX segment	TS	O			
VAR124	Highest measured temperature	Highest measured temperature.	Observation/OBX segment	SN	O			
INV2003	Temperature Units	Temperature units.	(Units code is passed in the same Observation/OBX segment as VAR124, but populates OBX-6.)	CE	O		PHVS_TemperatureUnit_UCUM	Note: the units observation appears in OBX-6 of the same observation/OBX segment as the numeric value in OBX-5; it is not specifically tagged.
VAR125	Fever Duration Days	Days of fever duration.	Observation/OBX segment	SN	O			
VAR126	Is patient immunocompromised due to medical condition or treatment	Is patient immunocompromised due to medical condition or treatment?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR127	Medical Condition or Treatment	Medical condition or treatment.	Observation/OBX segment	ST	O			
VAR128	Did patient visit a healthcare provider during this illness	Did patient visit a healthcare provider during this illness?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR129	Complications	Did patient develop any complications that were diagnosed by a healthcare provider?	Observation/OBX segment	CE	O		PHVS_YNU	

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
VAR130	Skin/soft tissue infection	Skin/soft tissue infection?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR131	Cerebellitis/ ataxia	Cerebellitis/ataxia.	Observation/OBX segment	CE	O			
VAR132	Encephalitis	Encephalitis.	Observation/OBX segment	CE	O			
VAR133	Dehydration	Dehydration.	Observation/OBX segment	CE	O			
VAR134	Hemorrhagic condition	Hemorrhagic condition.	Observation/OBX segment	CE	O			
VAR135	Pneumonia	Pneumonia.	Observation/OBX segment	CE	O		PHVS_YNU	
VAR136	How was pneumonia diagnosed	How was pneumonia diagnosed?	Observation/OBX segment	CE	O		PHVS_DiagnosedPneumonia By_VZ	Differing code system OIDs for this complex value set.
VAR137	Other complications	Other complications.	Observation/OBX segment	ST	O			
VAR138	Other complication details	Other complication details.	Observation/OBX segment	TX	O			Use TX data type because ST maxes out at length of 199.
VAR139	Antiviral treatment	Was patient treated with acyclovir, famvir, or any licensed antiviral for this illness?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR140	Name of medication	Name of medication.	Observation/OBX segment	ST	O			
VAR141	Start Date of Medication	Start date of medication.	Observation/OBX segment	TS	O			

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
VAR142	Stop Date of medication	Stop date of medication.	Observation/OBX segment	TS	0			
INV128	Hospitalized	Was patient hospitalized because of this event?	Observation/OBX segment	CE	0		PHVS_YNU	
INV132	Admission Date	Admission date.	Observation/OBX segment	TS	0			
INV133	Discharge Date	Discharge date.	Observation/OBX segment	TS	0			
INV134	Duration of stay in days	Duration of stay in days.	Observation/OBX segment	SN	0			
INV129	Hospital Name	Name of hospital.	Observation/OBX segment	ST	0			
INV145	Did the patient die from this illness	Did patient die from the condition under investigation?	Observation/OBX segment	CE	0		PHVS_YNU	
DEM128	Date of death	Date of death.	Observation/OBX segment	TS	0			Note: also in PID-29, but it is uncertain if it existed on the demographic record or as an investigation question.
VAR143	Autopsy performed	Autopsy performed?	Observation/OBX segment	CE	0		PHVS_YNU	
VAR144	Cause of death	Cause of death.	Observation/OBX segment	CE	0		PHVS_CauseOfDeath_NCHS	
VAR145	Reason why patient did not receive Varicella-containing vaccine	Reason why patient did not receive Varicella-containing vaccine.	Observation/OBX segment	CE	0		PHVS_VaccineNotGivenReasons_CDC	Complex value set with differing OIDs.

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
VAR146	Other reason why patient did not receive Varicella-containing vaccine	Other reason why patient did not receive Varicella-containing vaccine.	Observation/OBX segment	TX	O			Use TX data type because ST maxes out at length of 199.
VAR147	Number of doses received on or after first birthday	Number of doses received on or after first birthday.	Observation/OBX segment	SN	O			
VAR148	Reason patient is >= 13 years old and received one dose on or after 13th birthday but never received second dose	Reason patient is >= 13 years old and received one dose on or after 13th birthday, but never received second dose.	Observation/OBX segment	CE	O		PHVS_VaccineNotGivenReasons_CDC	Complex value set with differing OIDs.
VAR149	Other reason patient did not receive second dose	Other reason patient did not receive second dose.	Observation/OBX segment	TX	O			Use TX data type because ST maxes out at length of 199.
VAR150	Diagnosed with Varicella before	Has this patient ever been diagnosed with Varicella before?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR151	Age at Varicella diagnosis	Age at earlier Varicella diagnosis.	Observation/OBX segment	SN	O			

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
INV2002	Age at Varicella diagnosis units	Age units of patient when earlier diagnosed with Varicella.	(Units code is passed in the same Observation/OBX segment as VAR151, but as OBX-6 value.)	CE	O		PHVS_AgeUnit_UCUM	Note: units appear in OBX-6 of the same observation/OBX segment as the numeric observation preceding it, but units are not specifically tagged.
VAR152	Diagnosed by	Diagnosed by...	Observation/OBX segment	CE	O		PHVS_DiagnosedBy_VZ	
VAR154	Is this case epi-linked to another confirmed or probable case	Is this case epi-linked to another confirmed or probable case?	Observation/OBX segment	CE	O		PHVS_YNU	
VAR155	Type of case this case is epi-linked to	Type of case to which this case is epi-linked.	Observation/OBX segment	CE	O		PHVS_EpilinkedCaseType_VZ	
VAR156	Transmission setting (setting of exposure)	Transmission setting (setting of exposure).	Observation/OBX segment	CE	O		PHVS_TransmissionSetting_NND	
VAR157	Other transmission setting	Other transmission setting.	Observation/OBX segment	ST	O			
VAR158	Is this case a healthcare worker	Is this case a healthcare worker?	Observation/OBX segment	CE	O		PHVS_YNU	
INV150	Case outbreak indicator	Case outbreak indicator.	Observation/OBX segment	CE	O		PHVS_YNU	
INV151	Case outbreak name	Case outbreak name.	Observation/OBX segment	ST	O			
INV178	Pregnancy status	Indicator whether the patient is pregnant.	Observation/OBX segment	CE	O		PHVS_YNU	

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/ Opt	Rpts	Value Set Name	Comments
VAR159	Number of weeks gestation at onset of illness	Number of weeks gestation at onset of illness.	Observation/OBX segment	SN	0			
VAR160	Trimester at Onset of Illness	Trimester at onset of illness.	Observation/OBX segment	CE	0		PHVS_PregnancyTrimester_CD	
LAB143	Reporting Lab Name	Reporting lab name.	Observation/OBX segment under 2nd OBR	ST	0			
LAB144	Reporting Lab CLIA Number	Reporting lab CLIA number.	Observation/OBX segment under 2nd OBR	ST	0			
LAB163	Date of Specimen Collection	Date of specimen collection.	Observation/OBX segment under 2nd OBR	TS	0			
LAB503	Date Sample Received at Lab	Date sample received at lab.	Observation/OBX segment under 2nd OBR	TS	0			
LAB108	Lab Result Date	Lab result date.	Observation/OBX segment under 2nd OBR	TS	0			
LAB197	Lab Report Date	Lab report date.	Observation/OBX segment under 2nd OBR	TS	0			
LAB334	Date received in state public health lab	Date received in state public health lab.	Observation/OBX segment under 2nd OBR	TS	0			
LAB125	Accession Number	Accession number.	Observation/OBX segment under 2nd OBR	ST	0			

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TABLE 3-2. VARICELLA CASE NOTIFICATION DATA ELEMENT CROSS REFERENCE

UID	Label	Description	HL7 Message Context	Data Type	Req/Opt	Rpts	Value Set Name	Comments
LAB165	Specimen Source	Specimen source.	Observation/OBX segment under 2nd OBR	CE	O		PHVS_Specimen_CDC	
LAB101	Resulted Test Name	Resulted test name.	Observation/OBX segment under 2nd OBR	CE	O		PHVS_LabTestName_LOINC	
LAB192	Coded Test Result	Coded test result. This is a required field.	Observation/OBX segment under 2nd OBR	CE	R		PHVS_LabTestResultQualitative_SNOMED-CT	
VAR161	Sent to CDC for Genotyping	Sent to CDC for genotyping?	Observation/OBX segment under 2nd OBR	CE	O		PHVS_YNU	
VAR162	Genotyping Sent Date	Genotyping sent date.	Observation/OBX segment under 2nd OBR	TS	O			
VAR163	Sent For Strain ID	Sent for strain ID?	Observation/OBX segment under 2nd OBR	CE	O		PHVS_YNU	
VAR164	Strain Type	Strain type.	Observation/OBX segment under 2nd OBR	CE	O		PHVS_StrainType_VZ	

4 HL7 ORU^R01 ABSTRACT MESSAGE

The following message description portrays how the HL7 Unsolicited Observation message is constrained for use as a Notification.

TABLE 4.1 MESSAGE ATTRIBUTES	
Abbreviation	Definition
Segment	<p>Three-character code for the segment and the abstract syntax (<i>i.e.</i>, the square and curly braces)</p> <ul style="list-style-type: none"> • [XXX] Optional • { XXX } Repeating • XXX Required • [{ XXX }] Optional and Repeating <p>Note that for Segment Groups there will not be a segment code present, but the square and curly braces will still be present.</p> <p>This column shows the HL7 repeats and optionality for the standard message. The Usage and Cardinality columns specify how PHIN constrains the message.</p>
Name	Name of the Segment or Segment Group element.
Usage	<p>Use of the field for PHIN. Indicates if the field is required, optional, or conditional in a segment. Legal values are:</p> <ul style="list-style-type: none"> • R – Required. Must always be populated • O – Optional. May optionally be populated. • C – Conditional. Populated under specified conditions. • X – Not used for PHIN messaging.
Cardinality	<p>Indicator of the minimum and maximum number of times the element may appear.</p> <ul style="list-style-type: none"> • [0..0] Element never present. • [0..1] Element may be omitted and it can have at most, one Occurrence. • [1..1] Element must have exactly one Occurrence. • [0..n] Element may be omitted or may repeat up to <i>n</i> times. • [1..n] Element must appear at least once, and may repeat up to <i>n</i> times. • [0..*] Element may be omitted or repeat for an unlimited number of times. • [1..*] Element must appear at least once, and may repeat unlimited number of times. • [m..n] Element must appear at least <i>m</i>, and at most, <i>n</i> times.
Section	Indicator of the part of this guide that describes the segment. Some segments are associated with multiple sections.

Note: In the tables throughout this document, **Yellow = The PHIN Standard does not support the use of this item.**

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

**TABLE 4-2. ABSTRACT MESSAGE SYNTAX
ORU^R01 UNSOLICITED OBSERVATION MESSAGE**

Segment	Name	Usage	Cardinality	Section
	<i>Header Begin</i>			
MSH	Message Header	R	[1..1]	3.2
[[SFT]]	Software Segment	X	[0..0]	
	<i>Header End</i>			
{	<i>PATIENT_RESULT Begin</i>	R	[1..1]	
[<i>PATIENT Begin</i>	O	[0..1]	
PID	Patient Identification	R	[1..1]	3.3
[PD1]	Additional Demographics	X	[0..0]	
[(NTE)]	Notes and Comments for PID	X	[0..0]	
[(NK1)]	Next of Kin/Related Parties	X	[0..0]	
[<i>VISIT Begin</i>			
PV1	Patient Visit	X	[0..0]	
[PV2]	Patient Visit – Additional Information	X	[0..0]	
]	<i>VISIT End</i>			
]	<i>PATIENT End</i>	O	[0..1]	
{	<i>ORDER_OBSERVATION Begin</i>	R	[1..*]	
[ORC]	Order Common	X	[0..0]	
OBR	Observation Request	R	[1..1]	3.4
[(NTE)]	Notes and Comments	X	[0..0]	
{	<i>TIMING_QTY Begin</i>	X	[0..0]	
TQ1	Timing/Quantity	X	[0..0]	
[(TQ2)]	Timing/Quantity Order Sequence	X	[0..0]	
}}	<i>TIMING_QTY End</i>			
[CTD]	Contact Data	X	[0..0]	
[{	<i>OBSERVATION Begin</i>	R	[1..*]	
OBX	Observation Related to OBR	R	[1..1]	3.5
{ [(NTE)] }	Notes and Comments	X	[0..0]	
}}	<i>OBSERVATION End</i>			
[{FT1}]	Financial Transaction	X	[0..0]	
[{CTI}]	Clinical Trial Identification	X	[0..0]	
[{	<i>SPECIMEN Begin</i>			
SPM	Specimen	X	[0..0]	
[{OBX}]	Observation Related to Specimen	X	[0..0]	
}}	<i>SPECIMEN End</i>			

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

**TABLE 4-2. ABSTRACT MESSAGE SYNTAX
ORU^R01 UNSOLICITED OBSERVATION MESSAGE**

Segment	Name	Usage	Cardinality	Section
}	<i>ORDER_OBSERVATION End</i>			
}	<i>PATIENT_RESULT End</i>			
[DSC]	Continuation Pointer	X	[0..0]	

5 HL7 SEGMENT AND FIELD DESCRIPTIONS

This section contains descriptions of the segments used. Within each segment, the supported fields are briefly described. For more information on segments and fields, refer to the *HL7 Standard*.

5.1 SEGMENT ATTRIBUTE TABLE ABBREVIATIONS

The abbreviated terms and their definitions as used in the segment table headings are as follows:

TABLE 5-1 SEGMENT ATTRIBUTES	
Abbreviation	Definition
Seq	Sequence of the elements as they are numbered in the HL7 segment.
Len	<p>PHIN maximum length of the element. Length of an element is calculated using the following rules:</p> <ul style="list-style-type: none"> • Field length = (Sum of all supported component lengths) + (component number of the last supported component) – 1. • Component length = (Sum of all supported sub-component lengths) + (sub-component number of the last supported component) – 1. <p>Lengths should be considered recommendations, not absolutes. The receiver may truncate fields, components, and sub-components longer than the recommended length. The receiver should not fail to process a message simply because fields, components, or sub-components are too long.</p>
DT	Data type used by PHIN for HL7 element.
Usage	<p>Usage of the field for PHIN. Indicates if the field is required, optional, or conditional in a segment. Legal values are:</p> <ul style="list-style-type: none"> • R – Required. Must always be populated. • O – Optional. May optionally be populated. • C – Conditional. Populated under specified conditions. • X – Not used for PHIN messaging.
Cardinality	<p>Indicator of the minimum and maximum number of times the element may appear.</p> <ul style="list-style-type: none"> • [0..0] Element never present. • [0..1] Element may be omitted and it can have at most, one Occurrence. • [1..1] Element must have exactly one Occurrence. • [0..n] Element may be omitted or may repeat up to <i>n</i> times. • [1..n] Element must appear at least once, and may repeat up to <i>n</i> times. • [0..*] Element may be omitted or repeat for an unlimited number of times. • [1..*] Element must appear at least once, and may repeat unlimited number of times. • [m..n] Element must appear at least <i>m</i>, and at most, <i>n</i> times.
PHIN Value Set	<p>Pre-coordinated tables used in public health messages, accessible via the Public Health Information Network Vocabulary Access and Distribution Services at http://www.cdc.gov/PhinVSBrowser/StrutsController.do.</p>

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TABLE 5-1 SEGMENT ATTRIBUTES

Abbreviation	Definition
HL7 Element Name	HL7 descriptor of the element in the segment.
Description/Comments	PHIN context and usage for the element.

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5.2 MSH – MESSAGE HEADER SEGMENT

The Message Header Segment (MSH) is necessary to support the functionality described in the Control/Query chapter of the *HL7 standard*. MSH is used to define the intent, source, destination, and some specifics of the syntax of a message. The message header is mandatory for every message.

TABLE 5-2. MESSAGE HEADER SEGMENT (MSH)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
1	1	ST	R	[1..1]		Field Separator	Character to be used as the field separator for the rest of the message. The supported value is , ASCII (124).
2	4	ST	R	[1..1]		Encoding Characters	Field that always contains the following four characters, in the same order: ^~\& .
3	227	HD	R	[1..1]		Sending Application	Field used to uniquely identify the sending application for messaging purposes. If populated, it will contain an OID that represents the sending application instance.
3.1	20	IS	O	[0..1]		Namespace ID	
3.2	199	ST	R	[1..1]		Universal ID	OID.
3.3	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.
4	227	HD	R	[1..1]		Sending Facility	Unique identifier of the facility that sends the message. The sending facility must be part of the PHIN OID registry.
4.1	20	IS	O	[0..1]		Namespace ID	Facility short name; may be included for readability.
4.2	199	ST	R	[1..0]		Universal ID	OID.
4.3	6	ID	R	[1..0]		Universal ID Type	Literal value: 'ISO'.
5	227	HD	R	[1..1]		Receiving Application	Field used to uniquely identify the receiving application for messaging purposes. If populated, it will contain an OID that represents the receiving application instance.
5.1	20	IS	O	[0..1]		Namespace ID	Application short name; may be included for readability.
5.2	199	ST	R	[1..1]		Universal ID	OID.

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TABLE 5-2. MESSAGE HEADER SEGMENT (MSH)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
5.3	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.
6	227	HD	R	[1..1]		Receiving Facility	Unique identifier of the facility that is to receive the message. This unique identifier must be part of the PHIN OID registry.
6.1	20	IS	O	[0..1]		Namespace ID	Facility short name; may be included for readability.
6.2	199	ST	R	[1..1]		Universal ID	OID.
6.3	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.
7	24	TS	R	[1..1]		Date/Time Of Message	Date/time the sending system created the message.
7.1	24	DTM	R	[1..1]		Time	YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ], where at least the first fourteen digits are used to specify to a precision of "second." The time zone (+/-ZZZZ) is represented as +/-HHMM offset from Coordinated Universal Time (UTC) (formerly Greenwich Mean Time [GMT]), where +0000 or -0000 both represent UTC (without offset). If the time zone is not included, the time zone is understood to be the local time zone of the sender.
7.2		ID	X	[0..0]		Degree of Precision	Not supported.
8		ST	X	[0..0]		Security	Not supported.
9	15	MSG	R	[1..1]		Message Type	Field containing the message type, trigger event, and message structure ID for the message. For the Case Notification message, the value in this field will always be 'ORU^R01^ORU_R01'.
9.1	3	ID	R	[1..1]		Message Code	Literal value: 'ORU'.
9.2	3	ID	R	[1..1]		Trigger Event	Literal value: 'R01'.
9.3	7	ID	R	[1..1]		Message Structure	Literal value: 'ORU_R01'.

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TABLE 5-2. MESSAGE HEADER SEGMENT (MSH)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
10	20	ST	R	[1..1]		Message Control ID	String that uniquely identifies the message instance from the sending application. This field correlates to PHIN UID NTF139, the system-assigned, local ID of the notification record.
11	3	PT	R	[1..1]		Processing ID	Field that indicates the intent for processing the message, such as "Testing," "Development," or "Production."
11.1	1	ID	R	[1..1]		Processing ID	Field that will always contain P for this message in a production environment.
11.2	1	ID	O	[0..1]		Processing Mode	Understood to be "Current," if not explicitly sent in the message.
12	5	VID	R	[1..1]		Version ID	HL7 version number used to interpret format and content of the message.
12.1	5	ID	R	[1..1]		Version ID	Literal value: '2.5'.
12.2		CE	X	[0..0]		Internationalization Code	Not supported.
12.3		CE	X	[0..0]		International Version ID	Not supported.
13		NM	X	[0..0]		Sequence Number	Not supported.
14		ST	X	[0..0]		Continuation Pointer	Not supported.
15		ID	X	[0..0]		Accept Acknowledgment Type	Not supported.
16		ID	X	[0..0]		Application Acknowledgment Type	Not supported.
17		ID	X	[0..0]		Country Code	Not supported.
18		ID	X	[0..0]		Character Set	Not supported.
19		CE	X	[0..0]		Principal Language Of Message	Not supported.

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TABLE 5-2. MESSAGE HEADER SEGMENT (MSH)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
20		ID	X	[0..0]		Alternate Character Set Handling Scheme	Not supported.
21	411	EI	R	[1..1]		Message Profile Identifier	Field used to reference or assert adherence to a message profile. Message profiles contain detailed explanations of grammar, syntax, and usage for a particular message or set of messages.
21.1	199	ST	R	[1..1]		Entity Identifier	Literal value: 'VaricellaCaseNotificationORUv1'.
21.2	4	IS	O	[0..1]		Namespace ID	Literal value: 'PHIN'.
21.3	199	ST	R	[1..1]		Universal ID	OID for PHIN as the assigning authority of message profile identifier. Literal value: '2.16.840.1.114222.4.5.232'.
21.4	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.

5.3 PID – PATIENT IDENTIFICATION SEGMENT

The Patient Identification Segment (PID) is used as the primary means of conveying patient identification information that is not likely to change frequently.

TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
1	4	SI	O	[0..1]		Set ID - PID	Segment sequencing field not required to be populated, but may contain a '1'; however, only one patient/one PID segment per message is supported.
2		CX	X	[0..0]		Patient ID	Not supported.
3	255	CX	R	[1..1]		Patient Identifier List	Sending system-generated, internal person identifier only. These Notifications are de-identified messages.
3.1	15	ST	R	[1..1]		ID Number	DEM197 Local patient ID.
3.2		ST	X	[0..0]		Check Digit	Not supported.

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
3.3		ID	X	[0..0]		Check Digit Scheme	Not supported.
3.4	227	HD	R	[1..1]		Assigning Authority	
3.4.1	20	IS	O	[0..1]		Namespace ID	
3.4.2	199	ST	R	[1..1]		Universal ID	OID for sending application as assigning authority.
3.4.3	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.
3.5		ID	X	[0..0]		Identifier Type Code	Not supported.
4		CX	X	[0..0]		Alternate Patient ID - PID	Not supported.
5	513	XPN	R	[1..1]		Patient Name	Mandatory field that must be populated, but Patient Name is not supported with the Case Notification message. Literal value: "" (pair of double quotes).
6		XPN	X	[0..0]		Mother's Maiden Name	Not supported.
7	24	TS	O	[0..1]		Date/Time of Birth	Patient's date of birth. Correlates to PHIN Element UID DEM115 Birth Time.
7.1	24	DTM	R	[0..1]		Time	YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ], where at least the first eight digits are used to specify to a precision of "day."
7.2		ID	X	[0..0]		Degree of Precision	Not supported.
8	1	IS	O	[0..1]	PHVS_Sex_MFU	Administrative Sex	Patient's sex. Correlates to PHIN Element UID DEM113 Patient's Current Sex. Note that only the code is sent with this IS data type.
9		XPN	X	[0..0]		Patient Alias	Not supported.
10	841	CE	O	[0..*]		Race	Field containing one or more codes that broadly refer to the patient's race(s). Correlates to PHIN Element UID DEM152 Race Category Code.
10.1	20	ST	R	[1..1]	PHVS_RaceCategory_CDC	Identifier	
10.2	199	ST	O	[0..1]		Text	

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
10.3	199	ID	R	[1..1]		Name of Coding System	OID for race and ethnicity coding system. Literal Value: '2.16.840.1.113883.6.238'.
10.4		ST	X	[0..0]		Alternate Identifier	Not supported.
10.5		ST	X	[0..0]		Alternate Text	Not supported.
10.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
11	455	XAD	O	[0..*]		Patient Address	Residence address of the patient. Multiple addresses for the same person may be sent.
11.1	184	SAD	O	[0..1]		Street Address	Correlates to PHIN Element UID DEM159 Patient's Street Address 1. Not used for Case Notification reporting.
11.2	120	ST	O	[0..1]		Other Designation	Correlates to PHIN Element UID DEM160 Patient's Street Address 2. Not used for Case Notification reporting.
11.3	50	ST	O	[0..1]		City	Correlates to PHIN Element UID DEM161 Patient Address City. Not collected for Varicella reporting.
11.4	50	ST	O	[0..1]	PHVS_State_FIPS_5-2	State or Province	Correlates to PHIN Element UID DEM162 Patient Address State.
11.5	12	ST	O	[0..1]		Zip or Postal Code	Correlates to PHIN Element UID DEM163 Patient Address Zip code.
11.6	3	ID	O	[0..1]	PHVS_Country_ISO_3166-1	Country	Correlates to PHIN Element UID DEM167 Patient Address Country. Not collected for Varicella reporting.
11.7	3	ID	O	[0..1]	PHVS_AddressType_HL7_2x	Address Type	Correlates to PHIN Element UID DEM158 Patient Address Type. Not collected for Varicella reporting.
11.8		ST	X	[0..0]		Other Geographic Designation	Not supported.
11.9	20	IS	O	[0..1]	PHVS_County_FIPS_6-4	County/Parish Code	Correlates to PHIN Element UID DEM165 County Code.

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
11.10	20	IS	O	[0..1]		Census Tract	Correlates to PHIN Element UID DEM168 Census Tract. Not collected for Varicella reporting.
11.11		ID	X	[0..0]		Address Representation Code	Not supported.
11.12		DR	X	[0..0]		Address Validity Range	Not supported.
11.13	24	TS	O	[0..1]		Effective Date	Correlates to PHIN Element UID DEM169 Residence <i>From</i> Date. Not collected for Varicella reporting.
11.14	24	TS	O	[0..1]		Expiration Date	Correlates to PHIN Element UID DEM170 Residence <i>To</i> Date. Not collected for Varicella reporting.
12		IS	X	[0..0]		County Code	Not supported – residence county is part of PID-11.
13		XTN	X	[0..0]		Phone Number - Home	Not supported due to patient confidentiality reasons.
14		XTN	X	[0..0]		Phone Number - Business	Not supported due to patient confidentiality reasons.
15		CE	X	[0..0]		Primary Language	Not supported.
16	420	CE	O	[0..0]		Marital Status	Marital Status may be sent if populated on the patient demographics record. Correlates to PHIN Element UID DEM140.
16.1	20	ST	R	[1..1]	PHVS_MaritalStatus_HL7_2x	Identifier	
16.2	199	ST	O	[0..1]		Text	
16.3	199	ID	R	[1..1]		Name of Coding System	
16.4		ST	X	[0..0]		Alternate Identifier	Not supported.
16.5		ST	X	[0..0]		Alternate Text	Not supported.
16.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
17		CE	X	[0..0]		Religion	Not supported.
18		CX	X	[0..0]		Patient Account Number	Not supported due to privacy reasons.
19		ST	X	[0..0]		SSN Number - Patient	Not supported due to privacy reasons.

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
20		DLN	X	[0..0]		Driver's License Number - Patient	Not supported due to privacy reasons.
21		CX	X	[0..0]		Mother's Identifier	Not supported due to privacy reasons.
22	841	CE	O	[0..1]		Ethnic Group	Field that defines the patient as either Hispanic or Non-hispanic.
22.1	20	ST	R	[1..1]	PHVS_EthnicityGroup_CDC	Identifier	
22.2	199	ST	O	[0..1]		Text	
22.3	199	ID	R	[1..1]		Name of Coding System	OID for race and ethnicity coding system. Literal Value: '2.16.840.1.113883.6.238'.
22.4		ST	X	[0..0]		Alternate Identifier	Not supported.
22.5		ST	X	[0..0]		Alternate Text	Not supported.
22.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
23	250	ST	O	[0..1]		Birth Place	PHIN UID DEM126 Birth Country.
24	1	ID	O	[0..1]		Multiple Birth Indicator	PHIN UID DEM116 Multiple Birth Indicator. Not collected for Varicella reporting.
25	2	NM	O	[0..1]		Birth Order	PHIN UID DEM17 Birth Order. Not collected for Varicella reporting.
26	420	CE	O	[0..*]		Citizenship	PHIN UID DEM2009 Citizenship. Not collected for Varicella reporting.
26.1	20	ST	R	[1..1]	PHVS_Country_ISO_3161-1	Identifier	
26.2	199	ST	O	[0..1]		Text	
26.3	199	ID	R	[1..1]		Name of Coding System	Standard coding system OID.
26.4		ST	X	[0..0]		Alternate Identifier	Not supported.
26.5		ST	X	[0..0]		Alternate Text	Not supported.
26.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
27		CE	X	[0..0]		Veterans Military Status	Not supported.
28	841	CE	O	[0..1]		Nationality	PHIN UID DEM2004 Nationality. Not collected for Varicella reporting.
28.1	20	ST	R	[1..1]	PHVS_Country_ISO_3161-1	Identifier	
28.2	199	ST	O	[0..1]		Text	
28.3	199	ID	R	[1..1]		Name of Coding System	Standard coding system OID.
28.4		ST	X	[0..0]		Alternate Identifier	Not supported.
28.5		ST	X	[0..0]		Alternate Text	Not supported.
28.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
29	24	TS	O	[0..1]		Patient Death Date and Time	PHIN UID DEM128 Date of death. May be passed if the source patient record contains a deceased date along with a deceased indicator. DATE_OF_DEATH element for Varicella.
29.1	24	DTM	R	[1..1]		Time	YYYY[MM[DD[HH[MM[SS[S[S[S[S]]]]]]]][/-ZZZZ], where at least the first eight digits are used to specify to a precision of "day."
29.2		ID	X	[0..0]		Degree of Precision	Not supported.
30	1	ID	O	[0..1]	PHVS_YesNo_HL7_2x	Patient Death Indicator	PHIN UID DEM127 Patient Deceased indicator. May be passed if the source patient record is marked as deceased at the time of the message.
31		ID	X	[0..0]		Identity Unknown Indicator	Not supported.
32		IS	X	[0..0]		Identity Reliability Code	Not supported.
33		TS	X	[0..0]		Last Update Date/Time	Not supported.
34		HD	X	[0..0]		Last Update Facility	Not supported.
35		CE	X	[0..0]		Species Code	Not supported.
36		CE	X	[0..0]		Breed Code	Not supported.

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TABLE 5-3. PATIENT IDENTIFICATION SEGMENT (PID)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
37		ST	X	[0..0]		Strain	Not supported.
38		CE	X	[0..0]		Production Class Code	Not supported.
39		CWE	X	[0..0]		Tribal Citizenship	Not supported.

5.4 OBR – OBSERVATION REQUEST SEGMENT

The Observation Request Segment (OBR) acts as a report header and contains generic information about the notification. The OBR-4 value describes the type of notification data being passed in the OBX segments that immediately follow it.

The Varicella message may contain more than one OBR; any OBR after the first one is used to carry an associated laboratory report. Each report has an OBR segment that simply identifies it in OBR-4 as an associated laboratory report; the laboratory report elements are carried as a series of observations that follow. There is no special mapping to try to recreate the original electronic laboratory report, since these fields are pulled out of the sending application. Note that the Laboratory Report section is not required on the Varicella Case Notification.

TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
1	4	SI	R	[1..*]		Set ID - OBR	Sequence number of one of multiple OBRs that may be in a message. For the first order transmitted, the set ID is 1 ; for the second order, it is 2 ; etc.
2	2	EI	R	[1..1]		Placer Order Number	When results are transmitted in an ORU message, an ORC is not required, and the identifying placer order number must be present in the OBR segments. Literal value: "" (pair of double quotes).
3	427	EI	R	[1..1]		Filler Order Number	Unique identifier created by the sending application for this case or investigation instance.
3.1	199	ST	R	[1..1]		Entity Identifier	"Case ID" required, system-generated field from application.

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TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
3.2	20	IS	O	[0..1]		Namespace ID	
3.3	199	ST	R	[1..1]		Universal ID	OID for sending application as assigning authority.
3.4	6	ID	R	[1..1]		Universal ID Type	Literal value: 'ISO'.
4	420	CE	R	[1..1]		Universal Service Identifier	Type of report or a section within a larger report.
4.1	20	ST	R	[1..1]	PHVS_NotificationType_NND	Identifier	Code that indicates the type of investigation data carried in this Notification segment. Literal value: 'NOTF' for the first OBR. Subsequent OBRs will carry lab reports indicated by the NotificationType of 'LABRPT' in this field.
4.2	199	ST	O	[0..1]		Text	
4.3	199	ID	R	[1..1]		Name of Coding System	Coding system OID.
4.4		ST	X	[0..0]		Alternate Identifier	Not supported.
4.5		ST	X	[0..0]		Alternate Text	Not supported.
4.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
5		ID	X	[0..0]		Priority – OBR	Not supported.
6		TS	X	[0..0]		Requested Date/Time	Not supported.

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TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
7	24	TS	R	[1..1]		Observation Date/Time	Field required to be populated when the OBR is transmitted as part of a report message. For Case Notification, this is the notification creation or update date/time. This field is populated for message purposes and does not relate to any of the notification timestamps that are passed as specifically tagged observations. This is a mandatory field for the message. This field correlates to NOT103 Date Notification First Submitted: Date/time the investigation was submitted. If the application cannot supply this timestamp, provide "" to meet the required status for the field.
7.1	24	DTM	R	[1..1]		Time	YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][/+/-ZZZZ], where at least the first fourteen digits are used to specify to a precision of "second."
7.2		ID	X	[0..0]		Degree of Precision	Not supported.
8		TS	X	[0..0]		Observation End Dt/Time	Not supported.
9		CQ	X	[0..0]		Collection Volume	Not supported.
10		XCN	X	[0..0]		Collector Identifier	Not supported.
11		ID	X	[0..0]		Specimen Action Code	Not supported.
12		CE	X	[0..0]		Danger Code	Not supported.
13		ST	X	[0..0]		Relevant Clinical Information	Not supported.
14		TS	X	[0..0]		Specimen Received Date/Time	Not supported.
15		SPS	X	[0..0]		Specimen Source	Not supported.
16		XCN	X	[0..0]		Ordering Provider	Not supported.
17		XTN	X	[0..0]		Order Callback Phone #	Not supported.

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TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
18		ST	X	[0..0]		Placer Field 1	Not supported.
19		ST	X	[0..0]		Placer Field 2	Not supported.
20		ST	X	[0..0]		Filler Field 1	Not supported.
21		ST	X	[0..0]		Filler Field 2	Not supported.
22	24	TS	R	[1..1]		Results Rpt/Status Change Date/Time	Last update date/time of the Notification. This field correlates to NOT106 Date of Notification: Date the notification was sent to an outside entity.
22.1	24	DTM	R	[1..1]		Time	YYYY[MM[DD[HH[MM[SS.S[S[S[S]]]]]]][+/-ZZZZ], where at least the first fourteen digits are used to specify to a precision of "second."
22.2		ID	X	[0..0]		Degree of Precision	Not supported.
23		MOC	X	[0..0]		Charge to Practice	Not supported.
24		ID	X	[0..0]		Diagnostic Serv Sect ID	Not supported.
25	1	ID	R	[1..1]	PHVS_ResultStatus_HL7_2x	Result Status	Required field in this message; applies to the entire report. Literal value: 'F' for <i>Final</i> , when the notification is first sent. Literal value: 'C' for <i>Correction</i> , when an update/revision is sent. Literal value: 'X' for <i>Delete</i> , when the notification should be deleted or rescinded. This is an ID data type, so neither description nor OID are passed.
26		PRL	X	[0..0]		Parent Result	Not supported.
27		TQ	X	[0..0]		Quantity/Timing	Not supported.
28		XCN	X	[0..0]		Result Copies To	Not supported.
29		EIP	X	[0..0]		Parent	Not supported.
30		ID	X	[0..0]		Transportation Mode	Not supported.

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TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
31	420	CE	R	[1..1]		Reason for Study	Code that indicates the condition being reported with this Notification. This field correlates to INV169, Condition Code, and is required for the first OBR.
31.1	20	ST	R	[1..1]	PHVS_NationallyNotifiableDisease Condition_CDC	Identifier	Literal Value: '10030'.
31.2	199	ST	R	[1..1]		Text	Literal Value: 'Varicella infection'.
31.3	199	ID	R	[1..1]		Name of Coding System	Literal Value: '2.16.840.1.114222.4.5.78'.
31.4		ST	X	[0..0]		Alternate Identifier	Not supported.
31.5		ST	X	[0..0]		Alternate Text	Not supported.
31.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
32		NDL	X	[0..0]		Principal Result Interpreter	Not supported.
33		NDL	X	[0..0]		Assist. Result Interpreter	Not supported.
34		NDL	X	[0..0]		Technician	Not supported.
35		NDL	X	[0..0]		Transcriptionist	Not supported.
36		TS	X	[0..0]		Scheduled Date/Time	Not supported.
37		NM	X	[0..0]		No. of Sample Containers	Not supported.
38		CE	X	[0..0]		Transport Logistics of Collected Sample	Not supported.
39		CE	X	[0..0]		Collector's Comment *	Not supported.
40		CE	X	[0..0]		Transport Arrangement Responsibility	Not supported.
41		ID	X	[0..0]		Transport Arranged	Not supported.
42		ID	X	[0..0]		Escort Required	Not supported.
43		CE	X	[0..0]		Planned Patient Transport Comment	Not supported.

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TABLE 5-4. OBSERVATION REQUEST SEGMENT (OBR)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
44		CE	X	[0..0]		Procedure Code	Not supported.
45		CE	X	[0..0]		Procedure Code Modifier	Not supported.
46		CE	X	[0..0]		Placer Supplemental Service Information	Not supported.
47		CE	X	[0..0]		Filler Supplemental Service Information	Not supported.
48		CWE	X	[0..0]		Medically Necessary Duplicate Procedure Reason.	Not supported.
49		IS	X	[0..0]		Result Handling	Not supported.

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5.5 OBX – OBSERVATION RESULT SEGMENT

The Observation Result Segment (OBX) is used to convey observation results as “name/value pairs.” Observations that may have multiple responses are reported under a single Observation Request segment with the same value in OBX-3 and repeats in OBX-5.

TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
1	4	SI	R	[1..1]		Set ID – OBX	Sequence number of the OBX, which increments up by one for each observation segment in the group.
2	2	ID	R	[1..1]	<<see Data Element Mapping Table for list of Observations passed in OBX segments>>	Value Type	Format of the observation value expressed in OBX-5. Value Type is required for this message. The expected value types are SN, CE, TX, IS or ST, to indicate Structured Numeric, Coded, Text, or String observations. The IS (coded value for user-defined tables) data type has been added for some coded values where an OID is not available or necessary.
3	420	CE	R	[1..1]		Observation Identifier	Unique identifier of the specific observation being passed in this segment.
3.1	20	ST	R	[1..1]	PHVS_PHINQuestions_CDC	Identifier	UID for the data element or question.
3.2	199	ST	O	[0..1]		Text	Description for the data element or question.
3.3	199	ID	R	[1..1]		Name of Coding System	PHIN Coding system OID. Literal value: '2.16.840.1.114222.4.5.232'.
3.4		ST	X	[0..0]		Alternate Identifier	Not supported.
3.5		ST	X	[0..0]		Alternate Text	Not supported.
3.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
4	20	ST	O	[0..1]		Observation Sub-ID	Field that may contain a sequence number used to tie together observations with the same value in OBX-3.

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TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
5	99999	varies	O	[1..*]	<<see Data Element Mapping Table for Observations below>>	Observation Value	Actual result value or observation. The data type in OBX-2 Value Type indicates the format of the observation. The length of the observation field is variable, depending upon the value type. The Standard allows the observation value to repeat, using a tilde (~) for multipart, single-answer results with the same data type.
Breakdown for the SN data type result:							
5.1	2	ST	O	[0..1]		Comparator	Defined as greater than, less than, greater than or equal, less than or equal, equal, and not equal, respectively (= ">" or "<" or ">=" or "<=" or "=" or "<>". If this component is not valued, it defaults to equal ("=").
5.2	15	NM	O	[0..1]		Num1	First number.
5.3	1	ST	O	[0..1]		Separator/Suffix	"-" or "+" or "/" or "." or ":"
5.4	15	NM	O	[0..1]		Num2	Second number.
Breakdown for the ST data type result:							
5.1	199	ST	R	[1..1]		String Data	String data that is left-justified, with trailing blanks optional. May be any displayable (printable) ASCII characters (hexadecimal values between 20 and 7E, inclusive, or ASCII decimal values between 32 and 126), except the defined escape characters and defined delimiter characters.

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TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
Breakdown for the TX data type result:							
5.1	no limit	TX	R	[1..1]		Text Data	String data meant for user display (on a terminal or printer). Such data would not necessarily be left-justified, since leading spaces may contribute greatly to the clarity of the presentation to the user. Because this type of data is intended for display, it may contain certain escape character sequences designed to control the display. Escape sequence formatting is defined in Section 2.7 of the <i>HL7 2.5 Standard Use of Escape Sequences in Text Fields</i> . Leading spaces should be included. Trailing spaces should be removed.
Breakdown for the CE Data type result (total maximum length is 841):							
5.1	20	ST	R	[1..1]		Identifier	Standardized code.
5.2	199	ST	O	[0..1]		Text	Standardized description.
5.3	199	ID	R	[1..1]		Name of Coding System	Coding system OID.
5.4	20	ST	O	[0..1]		Alternate Identifier	Original local concept code may be sent.
5.5	199	ST	O	[0..1]		Alternate Text	Original local concept description may be sent.
5.6	199	ID	O	[0..1]		Name of Alternate Coding System	Use the HL7 convention of 'L' for Local, or send the OID for the assigning application

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TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
Breakdown for the TS data type result:							
5.1	24	DTM	R	[1..1]		Time	YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ], where: <ul style="list-style-type: none"> • the first four digits specify a precision of "year" • the first six are used to specify a precision of "month" • the first eight are used to specify a precision of "day" • the first ten are used to specify a precision of "hour" • the first twelve are used to specify a precision of "minute" • the first fourteen are used to specify a precision of "second" • the first sixteen are used to specify a precision of "one tenth of a second" • the first nineteen are used to specify a precision of "one ten-thousandths of a second." The time zone (+/-ZZZZ) is represented as +/-HHMM offset from Coordinated Universal Time (UTC) (formerly Greenwich Mean Time [GMT]), where +0000 or -0000 both represent UTC (without offset). If the time zone is not included, the time zone defaults to that of the local time zone of the sender.
5.2		ID	X	[0..0]		Degree of Precision	Not supported.
Breakdown for the IS (coded value for user-defined tables) data type result:							
5.1	20	ST	R	[1..1]		String Data	Field in which the value follows the formatting rules for an ST field, except that it is drawn from a site-defined (or user-defined) table of legal values.

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TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
6	841	CE	O	[0..1]		Units	Units of measure that put the numeric observation value expressed in OBX-5 into context. Included are weight, height, age, and temperature units.
6.1	20	ST	R	[1..1]	PHVS_UnitsOfMeasure_CDC	Identifier	
6.2	199	ST	O	[0..1]		Text	
6.3	199	ID	R	[1..1]		Name of Coding System	Coding system OID.
6.4		ST	X	[0..0]		Alternate Identifier	Not supported.
6.5		ST	X	[0..0]		Alternate Text	Not supported.
6.6		ID	X	[0..0]		Name of Alternate Coding System	Not supported.
7		ST	X	[0..0]		References Range	Not supported.
8		IS	X	[0..0]		Abnormal Flags	Not supported.
9		NM	X	[0..0]		Probability	Not supported.
10		ID	X	[0..0]		Nature of Abnormal Test	Not supported.
11	1	ID	R	[1..1]		Observation Result Status	Required field for this segment. Literal value 'F' is always sent. Updates and revisions are not processed based on status changes to the observation-level status code.
12		TS	X	[0..0]		Effective Date of Reference Range Values	Not supported.
13		ST	X	[0..0]		User Defined Access Checks	Not supported.
14		TS	X	[0..0]		Date/Time of the Observation	Not supported.
15		CE	X	[0..0]		Producer's ID	Not supported.
16		XCN	X	[0..0]		Responsible Observer	Not supported.

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TABLE 5-5. OBSERVATION RESULT SEGMENT (OBX)

Seq	Len	DT	Usage	Cardinality	PHIN Value Set	HL7 Element Name	Description/Comments
17		CE	X	[0..0]		Observation Method	Not supported.
18		EI	X	[0..0]		Equipment Instance ID	Not supported.

6 MISCELLANEOUS

This section contains additional material for use by implementers.

6.1 EXAMPLE VARICELLA NOTIFICATION MESSAGE

The following example message is provided as a concrete example of a message instance that follows this guide.

NOTE: This message is for demonstration purposes and should not be used to encode, as details such as OIDs may change.

```
MSH|^~\&|^2.16.840.1.114222.4.5.232.1.xxx^ISO|^2.16.840.1.114222.4
.5.232.1.150^ISO|^2.16.840.1.114222.4.5.232.3.2.3^ISO|^2.16.840.
1.114222^ISO|200509101913100||ORU^R01^ORU_R01|N31000036|D|2.5|||
|||||VaricellaCaseNotificationORUv1<CR>
PID|1||2398273947^^&<assigning authority
OID>&ISO||""||19671206|M||2054-5^Black or African
American^2.16.840.1.113883.6.238~2106-
3^White^2.16.840.1.113883.6.238|^^^GA^30303^^^GA089|||||||2
186-5^Not Hispanic or Latino^2.16.840.1.113883.6.238|||||||<CR>
OBR|1|""|CAS1000280924^OID^ISO|NOTF^CASE
NOTIFICATION^2.16.840.1.114222.4.5.256|||200606010121310|||||||
|||||||200606010191310|||F|||||||10030^Varicella
Infection^2.16.840.1.114222.4.5.255<CR>
OBX|1|IS|INV107^Case Jurisdiction
Code^2.16.840.1.114222.4.5.232||LOCALJURISDICTION|||||F<CR>
OBX|2|IS|INV108^Case Program Area
Code^2.16.840.1.114222.4.5.232||PROGRAMCODE|||||F<CR>
OBX|3|CE|NOT113^Reporting
County^2.16.840.1.114222.4.5.232||GA121^The county of Fulton,
Georgia^2.16.840.1.113883.6.93|||||F<CR>
OBX|4|CE|NOT109^Reporting
State^2.16.840.1.114222.4.5.232||GA^Georgia^2.16.840.1.113883.
6.92|||||F<CR>
OBX|5|IS|NOT110^Record
Type^2.16.840.1.114222.4.5.232||I|||||F<CR>
OBX|6|ST|INV173^State Case
ID^2.16.840.1.114222.4.5.232||GA343092843|||||F<CR>
OBX|7|TS|INV147^Investigation Start
Date^2.16.840.1.114222.4.5.232||20060512|||||F<CR>
OBX|8|CE|VAR100^Number of lesions in
total^2.16.840.1.114222.4.5.232||250-500^250 to 500
Lesions^2.16.840.1.114222.4.5.264|||||F<CR>
OBX|9|CE|VAR101^Did the patient receive Varicella-containing
vaccine^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.
136|||||F<CR>
OBX|10|SN|INV2001^Age at investigation
^2.16.840.1.114222.4.5.232||^29|a^Years^2.16.840.1.113883.6.8|
|||||F<CR>
```

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OBX|11|CE|INV109^Case Investigation Status
Code^2.16.840.1.114222.4.5.232||O^Open^
2.16.840.1.114222.4.5.75|||||F<CR>

OBX|12|CE|INV163^Case Class Status
Code^2.16.840.1.114222.4.5.232||C^Confirmed^2.16.840.1.114222.
4.5.72|||||F<CR>

OBX|13|SN|INV165^MMWR
Week^2.16.840.1.114222.4.5.232||^15|||||F<CR>

OBX|14|TS|INV166^MMWR
Year^2.16.840.1.114222.4.5.232||2006|||||F<CR>

OBX|15|ST|INV114^Reporting Source
Name^2.16.840.1.114222.4.5.232||Reporting Source Name
String|||||F<CR>

OBX|16|ST|INV115a^Reporting Source Street Address Line
1^2.16.840.1.114222.4.5.232||Street Address Line 1|||||F<CR>

OBX|17|ST|INV115b^Reporting Source Street Address Line
2^2.16.840.1.114222.4.5.232||Street Address Line 2|||||F<CR>

OBX|18|CE|INV116^Reporting Source Address
City^2.16.840.1.113883.6.245||356368
^Loganvillie^2.16.840.1.113883.6.245|||||F<CR>

OBX|19|CE|INV117^Reporting Source Address
State^2.16.840.1.114222.4.5.232||GA^Georgia^
2.16.840.1.113883.6.92|||||F<CR>

OBX|20|ST|INV118^Reporting Source Address Zip
Code^2.16.840.1.114222.4.5.232||30303|||||F<CR>

OBX|21|CE|INV119^Reporting Source Address
County^2.16.840.1.114222.4.5.232||G089^The county of DeKalb,
Georgia^2.16.840.1.113883.6.93|||||F<CR>

OBX|22|ST|INV122^Reporting Source Telephone
Number^2.16.840.1.114222.4.5.232||404-498-1600|||||F<CR>

OBX|23|SN|INV143^Illness Onset
Age^2.16.840.1.114222.4.5.232||^28|a^Years^2.16.840.1.113883.6
.8|||||F<CR>

OBX|24|TS|INV111^Date of
Report^2.16.840.1.114222.4.5.232||timestamp|||||F<CR>

OBX|25|TS|INV120^Earliest Date Reported to
County^2.16.840.1.114222.4.5.232||20060501|||||F<CR>

OBX|26|TS|INV121^Earliest Date Reported to
State^2.16.840.1.114222.4.5.232||20060502|||||F<CR>

OBX|27|TS|INV136^Diagnosis
Date^2.16.840.1.114222.4.5.232||20060430|||||F<CR>

OBX|28|TS|INV137^Date of Illness
Onset^2.16.840.1.114222.4.5.232||20060428|||||F<CR>

OBX|29|TS|VAR102^Rash Onset
Date^2.16.840.1.114222.4.5.232||20060427|||||F<CR>

OBX|30|CE|VAR103^Rash
Location^2.16.840.1.114222.4.5.232||87017008^Focal^2.16.840.1.
113883.6.96|||||F<CR>

OBX|31|ST|VAR104^Dermatome^2.16.840.1.114222.4.5.232||dermatome
string whatever that is|||||F<CR>

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

OBX|32|CE|VAR105^Where Rash First
Noted^2.16.840.1.114222.4.5.232||
TRUNKTRU^Trunk^2.16.840.1.114222.4.5.199|||||F<CR>

OBX|33|ST|VAR106^Other Generalized rash
location^2.16.840.1.114222.4.5.232||Other Generalized rash
location text|||||F<CR>

OBX|34|CE|VAR107^Macules
Present^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.
136|||||F<CR>

OBX|35|SN|VAR108^Number of
Macules^2.16.840.1.114222.4.5.232||^44|||||F<CR>

OBX|36|CE|VAR109^Papules
Present^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.
136|||||F<CR>

OBX|37|SN|VAR110^Number of
Papules^2.16.840.1.114222.4.5.232||^5|||||F<CR>

OBX|38|CE|VAR111^Vesicles
Present^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.
136|||||F<CR>

OBX|39|SN|VAR112^Number of
Vesicles^2.16.840.1.114222.4.5.232||^15|||||F<CR>

OBX|40|CE|VAR113^Mostly
macular/papular^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.11
3883.12.136|||||F<CR>

OBX|41|CE|VAR114^Mostly
vesicular^2.16.840.1.114222.4.5.232||N^No^2.16.840.1.113883.12
.136|||||F<CR>

OBX|42|CE|VAR115^Hemorrhagic^2.16.840.1.114222.4.5.232||
N^No^2.16.840.1.113883.12.136|||||F<CR>

OBX|43|CE|VAR116^Itchy^2.16.840.1.114222.4.5.232||
Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|44|CE|VAR117^Scabs^2.16.840.1.114222.4.5.232||
Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|45|CE|VAR118^Crops/Waves^2.16.840.1.114222.4.5.232||
Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|46|CE|VAR119^Did rash crust^2.16.840.1.114222.4.5.232||
Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|47|SN|VAR120^Number of Days until lesions crusted
over^2.16.840.1.114222.4.5.232||^4|||||F<CR>

OBX|48|SN|VAR121^Number of Days rash
lasted^2.16.840.1.114222.4.5.232||^9|||||F<CR>

OBX|49|CE|VAR122^Fever^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1
.113883.12.136|||||F<CR>

OBX|50|TS|VAR123^Fever Onset
Date^2.16.840.1.114222.4.5.232||20060427|||||F<CR>

OBX|50|SN|VAR124^Highest measured
temperature^2.16.840.1.114222.4.5.232||^101.3|[degF]^ [degF] -
degree Fahrenheit -
temperature^2.16.840.1.113883.6.8|||||F<CR>

OBX|52|SN|VAR125^Number of Days until lesions crusted
over^2.16.840.1.114222.4.5.232||^9|||||F<CR>

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

OBX|53|CE|VAR126^Is patient immunocompromised due to medical condition or treatment^2.16.840.1.114222.4.5.232||^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|54|ST|VAR127^Medical Condition or Treatment^2.16.840.1.114222.4.5.232||patient is a kidney transplant recipient and is on corticosteroids|||||F<CR>

OBX|55|CE|VAR128^Did patient visit a healthcare provider during this illness^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|56|TS|VAR129^Did the patient develop any complications that were diagnosed by a healthcare provider^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|57|CE|VAR130^Skin/soft tissue infection^2.16.840.1.114222.4.5.232||N^No^2.16.840.1.113883.12.136>|||||F<CR>

OBX|58|CE|VAR131^Cerebellitis/ataxia^2.16.840.1.114222.4.5.232||N^No^2.16.840.1.113883.12.136>|||||F<CR>

OBX|59|CE|VAR132^Encephalitis^2.16.840.1.114222.4.5.232||N^No^2.16.840.1.113883.12.136>|||||F<CR>

OBX|60|CE|VAR133^Dehydration^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136>|||||F<CR>

OBX|61|CE|VAR134^Hemorrhagic condition^2.16.840.1.114222.4.5.2324||N^No^2.16.840.1.113883.12.136>|||||F<CR>

OBX|62|CE|VAR135^Pneumonia^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136>|||||F<CR>

OBX|63|CE|VAR136^How was pneumonia diagnosed^2.16.840.1.114222.4.5.232||MD^MD^2.16.840.1.114222.4.5.160|||||F<CR>

OBX|64|CE|VAR137^Were there other complications^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136>|||||F<CR>

OBX|65|TX|VAR138^Other complication details^2.16.840.1.114222.4.5.232||other complications text|||||F<CR>

OBX|66|CE|VAR139^Was patient treated with acyclovir, famvir, or any licensed antiviral for this illness^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136>|||||F<CR>

OBX|67|TX|VAR140^Name of medication^2.16.840.1.114222.4.5.232||Acyclovir|||||F<CR>

OBX|68|TS|VAR141^Start Date of Medication^2.16.840.1.114222.4.5.232||20060517|||||F<CR>

OBX|69|TS|VAR142^Stop Date of Medication^2.16.840.1.114222.4.5.232||20060530|||||F<CR>

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

OBX|70|CE|INV128^Was the patient hospitalized as a result of this event^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|71|TS|INV132^Admission
Date^2.16.840.1.114222.4.5.232||20060518|||||F<CR>

OBX|72|TS|INV133^Discharge
Date^2.16.840.1.114222.4.5.232||20060521|||||F<CR>

OBX|73|SN|INV134^Duration of stay in
days^2.16.840.1.114222.4.5.232||^3|||||F<CR>

OBX|74|ST|INV129^Hospital Name^2.16.840.1.114222.4.5.232||Generic
Medical Center|||||F<CR>

OBX|75|CE|INV145^Did the patient die from the condition under
investigation^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.1138
83.12.136|||||F<CR>

OBX|76|CE|VAR143^Autopsy performed^2.16.840.1.114222.4.5.232||
Y^Yes^2.16.840.1.113883.12.136|||||F<CR>

OBX|77|TX|VAR144^Cause of death^2.16.840.1.114222.4.5.232||cause
of death long text field|||||F<CR>

OBX|78|CE|VAR145^Reason why patient did not receive Varicella-
containing
vaccine^2.16.840.1.114222.4.5.232||REFUSE^Parent/Patient
refusal ^2.16.840.1.114222.4.5.252|||||F<CR>

OBX|79|TX|VAR146^Other reason why patient did not receive
Varicella-containing vaccine^2.16.840.1.114222.4.5.232||Other
reason why patient did not receive Varicella-containing
vaccine long text field|||||F<CR>

OBX|80|SN|VAR147^Number of doses received on or after first
birthday^2.16.840.1.114222.4.5.232||^1|||||F<CR>

OBX|81|CE|VAR148^Reason patient is >= 13 years old and received
one dose on or after 13th birthday but never received second
dose^2.16.840.1.114222.4.5.232||OTH^Other^2.16.840.1.113883.5.
1008|||||F<CR>

OBX|82|TX|VAR149^Other reason patient did not receive second
dose^2.16.840.1.114222.4.5.232||Other reason patient did not
receive second dose long text field|||||F<CR>

OBX|83|CE|VAR150^Has this patient ever been diagnosed with
Varicella
before^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.1
36|||||F<CR>

OBX|84|SN|VAR151^Age at Varicella
diagnosis^2.16.840.1.114222.4.5.232||^12|
a^Years^2.16.840.1.113883.6.8|||||F<CR>

OBX|85|CE|VAR152^Diagnosed
by^2.16.840.1.114222.4.5.232||PHYSHCPR^Physician/Health Care
Provider^2.16.840.1.114222.4.5.198|||||F<CR>

OBX|86|CE|VAR154^Is this case epi-linked to another confirmed or
probable
case^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136
|||||F<CR>

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

OBX|87|CE|VAR155^Type of case this case is epi-linked
to^2.16.840.1.114222.4.5.232|| HERPZOST^Herpes Zoster
Case^2.16.840.1.114222.4.5.198|||||F<CR>

OBX|88|CE|VAR156^Transmission setting (setting of
exposure)^2.16.840.1.114222.4.5.232|COMMUNITY^Community^2.16.
840.1.114222.4.5.77|||||F<CR>

OBX|89|ST|VAR157^Other transmission
setting^2.16.840.1.114222.4.5.232|other transmission setting
text|||||F<CR>

OBX|90|CE|VAR158^Is this case a healthcare
worker^2.16.840.1.114222.4.5.232|U^Unknown^
2.16.840.1.113883.5.1008|||||F<CR>

OBX|91|CE|INV150^Case outbreak
indicator^2.16.840.1.114222.4.5.232|Y^Yes^2.16.840.1.113883.1
2.136|||||F<CR>

OBX|92|ST|INV151^Case outbreak
name^2.16.840.1.114222.4.5.232|OUTBREAKNAME|||||F<CR>

OBX|93|CE|VAR153^If the case is female, is/was she pregnant during
this Varicella
illness^2.16.840.1.114222.4.5.232|Y^Yes^2.16.840.1.113883.12.
136|||||F<CR>

OBX|94|SN|VAR159^Number of weeks gestation at onset of
illness^2.16.840.1.114222.4.5.232|^13|||||F<CR>

OBX|95|CE|VAR160^Trimester at Onset of
Illness^2.16.840.1.114222.4.5.232|255246003^1st
Trimester^2.16.840.1.113883.6.96|||||F<CR>

OBR|2|""|CAS1000280924^OID^ISO|LABRPT^Associated Laboratory
Report^ 2.16.840.1.114222.4.5.256
||200606010191310|||||||200606010191310|||F|||||10030
^Varicella Infection^2.16.840.1.114222.4.5.255<CR>

OBX|1|ST|LAB143^Reporting Lab
Name^2.16.840.1.114222.4.5.232|Reporting Lab Name
String|||||F<CR>

OBX|2|ST|LAB144^Reporting Lab CLIA
Number^2.16.840.1.114222.4.5.232|CLIA Number|||||F<CR>

OBX|3|TS|LAB163^Date of Specimen
Collection^2.16.840.1.114222.4.5.232|20060528|||||F<CR>

OBX|4|TS|LAB503^Date Sample Received at
Lab^2.16.840.1.114222.4.5.232|20060522|||||F<CR>

OBX|5|TS|LAB108^Lab Result
Date^2.16.840.1.114222.4.5.232|20060529|||||F<CR>

OBX|6|TS|LAB197^Lab Report
Date^2.16.840.1.114222.4.5.232|20060530|||||F<CR>

OBX|7|TS|LAB334^Date received in state public health
lab^2.16.840.1.114222.4.5.232|20060530|||||F<CR>

OBX|8|ST|LAB125^Accession
Number^2.16.840.1.114222.4.5.232|T289238|||||F<CR>

OBX|9|CE|LAB166^Specimen
Source^2.16.840.1.114222.4.5.232|TISS^Tissue^2.16.840.1.114222.
4.11.946|||||F<CR>

OBX|10|CE|LAB101^Resulted Test Name^2.16.840.1.114222.4.5.232

VARICELLA NOTIFICATION MESSAGE IMPLEMENTATION GUIDE

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||19162-7^IgG - Latex Bead
  Agglutination^2.16.840.1.113883.6.1|||||F<CR>
OBX|11|CE|LAB192^Coded Result Value^2.16.840.1.114222.4.5.232||
  10828004^Positive^2.16.840.1.113883.6.96 |||||F<CR>
OBX|12|CE|VAR161^Sent to CDC for
  Genotyping^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12
  .136|||||F<CR>
OBX|13|TS|VAR162^Genotyping Sent
  Date^2.16.840.1.114222.4.5.232||20060601|||||F<CR>
OBX|14|CE|VAR163^Sent For Strain
  ID^2.16.840.1.114222.4.5.232||Y^Yes^2.16.840.1.113883.12.136||||
  ||F<CR>
OBX|15|CE|VAR164^Strain
  Type^2.16.840.1.114222.4.5.232||VACCTYPE^Vaccine Type
  Strain^2.16.840.1.114222.4.5.198|||||F<CR>
```

6.2 REFERENCES

Health Level Seven, Version 2.5, 2003, Chapter 2 – Control.

Health Level Seven, Version 2.5, 2003, Chapter 2a – Data Types.

Health Level Seven, Version 2.5, 2003, Chapter 3 – Patient Administration.

Health Level Seven, Version 2.5, 2003, Chapter 4 – Order Entry.

Health Level Seven, Version 2.5, 2003, Chapter 5 – Observation Reporting.

Notify CDC Message–All PAMs from NEDSS PAM Platform Team at SAIC. Last updated 9/12/2006.